

What is claimed is:

1 1. A circuit board comprising:
2 a substrate; and
3 electrical contacts to mate with a slot connector, the contacts comprising a first set of
4 contacts associated with the communication of power and second set of contacts associated
5 with the communication of signals and not used to communicate power, adjacent contacts of
6 the first set having a first spacing and adjacent contacts of the second set having a second
7 spacing different from the first spacing.

1 2. The circuit board of claim 1, wherein the first spacing comprises a pitch of
2 approximately twice a pitch of the second spacing.

1 3. The circuit board of claim 1, wherein the substrate comprises an edge to be
2 inserted into a slot connector housing, and the first and second set of contacts are formed on
3 the edge.

1 4. The circuit board of claim 1, wherein the first spacing comprises a pitch of
2 approximately 0.05 inches and the second spacing comprises a pitch of approximately 0.10
3 inches.

1 5. The circuit board of claim 1, further comprising:
2 power regulation circuitry mounted on the substrate and in electrical communication
3 with the first set of contacts.

1 6. A circuit board comprising:
2 circuitry; and
3 a substrate supporting the circuitry and having a contact edge to be inserted into a slot
4 connector housing, the substrate having a profile engaged by the connector housing to hold
5 the circuit board in the slot connector housing.

1 7. The circuit board of claim 6, wherein the profile is engaged by a mechanism
2 located inside the slot connector housing.

1 8. The circuit board of claim 7, wherein the mechanism comprises at least one of
2 a spring located entirely inside the connector housing and a plastic latch internal to the
3 connector housing.

1 9. The circuit board of claim 6, wherein the profile comprises a notch formed in
2 another edge of the substrate.

1 10. The circuit board of claim 9, wherein said another edge extends in an
2 orthogonal direction to the edge inserted in the slot connector housing.

1 11. A method comprising:
2 supporting circuitry on a substrate to form a circuit board; and
3 forming a profile in the substrate to engage a slot connector housing to hold the circuit
4 board in the slot connector housing.

1 12. The method of claim 11, further comprising:
2 engaging the profile with a mechanism located inside the slot connector housing.

1 13. The method of claim 11, wherein the mechanism comprises a spring located
2 entirely inside the connector housing.

1 14. The method of claim 11, further comprising:
2 forming electrical contacts on a first edge of the substrate to circuit board; and
3 forming the profile on a second edge of the substrate, the second edge extending in a
4 direction substantially orthogonal to a direction along which the first edge extends.

1 15. A connector comprising:
2 a housing including a slot to receive a circuit board, the housing being formed from a
3 material having a thermal conductivity of at least approximately 0.27 W/m·K; and
4 electrical contacts secured to the housing to establish electrical communication with
5 electrical contact pads of the circuit board.

1 16. The connector of claim 15, wherein the material comprises a liquid crystal
2 polymer.

1 17. The connector of claim 15, wherein the housing comprises fins to promote
2 conduction of heat away from the circuit board when the circuit board is inserted into the slot.

1 18. A method comprising:
2 using a material having a thermal conductivity of at least approximately 0.27 W/m·K
3 to form a housing for a slot connector, the housing having a slot to receive a circuit board;
4 and
5 using the thermal conductivity of the material to conduct heat away from circuitry of
6 the circuit board.

1 19. The method of claim 18, wherein the material comprises a liquid crystal
2 polymer.

1 20. The method of claim 18, further comprising:
2 forming fins in the housing to conduct heat away from the circuit board when the
3 circuit board is inserted into the slot.

1 21. A method comprising:
2 providing a slot connector to receive a circuit board; and
3 forming fins on the slot connector to conduct heat away from circuitry of the circuit
4 board.

1 22. The method of claim 21, wherein the slot connector couples the circuit board
2 to another circuit board, the method further comprising:
3 providing an edge of the slot connector to mount to said another circuit board; and
4 creating clearances between each fin and the edge.

1 23. The method of claim 22, wherein each of the clearances is in a range between
2 approximately 1/4 inches and approximately 3/8 inches.

1 24. The method of claim 22, further comprising:
2 forming the fins out of a liquid crystal polymer.

1 25. A slot connector comprising:
2 a housing including a slot to receive a circuit board;
3 electrical contacts to establish electrical communication with electrical contacts of the
4 circuit board; and
5 a retention mechanism to engage a profile of the circuit board to secure the circuit
6 board to the slot connector.

1 26. The slot connector of claim 25, wherein the retention mechanism is located
2 entirely inside the slot.

1 27. The slot connector of claim 25, wherein the retention mechanism comprises a
2 spring.

1 28. A method comprising:
2 using a housing to form a slot to receive a circuit board;
3 attaching a retention mechanism to the housing to engage a profile of the circuit
4 board to secure the circuit board to the housing.

1 29. The slot connector of claim 28, further comprising:
2 disposing the retention mechanism entirely inside the slot.

1 30. The slot connector of claim 28, wherein the retention mechanism comprises at
2 least one of a spring and a plastic latch.